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AN ECOLOGICAL STUDY OF RUSHES IN PASTURE
THE SPECIES OBSERVED, THE ENVIRONMENT, AND
THE INFLUENCE OF MANAGEMENT IN RUSH CONTROL.

By "Cider".

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C O N T E N T S.

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AN ECOLOGICAL STUDY OF RUSHES IN PASTURE. THE SPECIES
OBSERVED, THE ENVIRONMENT, AND THE INFLUENCE
OF MANAGEMENT IN RUSH CONTROL.

INTRODUCTION:

The Dominion of New Zealand is dependent on its primary products. There is no need to statistically prove this fact; it is obvious to anyone who troubles to read and think.

The marketable value of the Dominion's Dairy Produce, Wool and Frozen Meat, largely determines the economic welfare of the Country.

The significant feature is that these primary products are all of grassland origin. Home Consumption of primary products is limited, and the prosperity of the Dominion depends almost entirely on its exportable balance. Attractive markets are distant and competition keen.

The marketing of Dominion products suffers disability through distance and transportation, but this is compensated largely by natural climatic advantages, the climate being exceedingly mild and equable, so that depasturing of stock may be continued throughout the year on grassland, or with the assistance of supplements of hay and ensilage conserved in springtime from surplus grass growths.

It is vitally important that the greatest care and attention should be devoted to maintaining clean and nourishing pasture if increased productivity and incidentally prosperity is to result.

Much research work has been conducted along the lines of selection, and, latterly, of breeding superior pasture grasses, but there does not seem to have been the same attention paid to the control or eradication of weeds, some of which are slowly but surely increasing in existing pastures, in many pastoral districts.

Weed growth in grassland pasture is a curse to the average farmer, and among the most common weeds are rushes.

The control of rushes in pasture is a very serious problem affecting many districts in the Dominion. The late Dr. L. Cockayne, an eminent ecologist, realised the damaging effects of weeds in pastoral lands. In advocating measures for weed control (1)* he emphasises the point thus, "The better known are its habits, its likes and its dislikes in relation to soil and climate, its special plant and animal enemies, its methods of dissemination, its seasonal changes, and last but not least its actual distribution, the easier will it be to set up satisfactory means for its downfall."

In Nature plants flourish according to environment. Rushes are no exception. Their environment must be made uncongenial, they must be controlled, and if possible eradicated.

With this purpose in view the writer has

* (Reference by number is to Literature cited)

given the subject close study and the following detail is the result of such careful observance.

OBJECTS AND AIMS OF THE INVESTIGATION:

1. A short review of the information connected with a study of rushes.
2. A description of *Juncus* species noted in their pasture habitats.
3. An experimental examination, and analysis of some observed environmental features relating to rush growth.
4. A review of probable effects induced by systems of management, considered with the aim of rush control.

GENERAL NOTE:

In the classification and notes on general distribution of the species observed, Cheesman's work (3 & 4) has been freely consulted. The descriptions following on after classification of the species are purely the result of personal observation within the stated areas.